



IARC Multicenter Case-Control Study of ETS and Lung Cancer:

An Analysis

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Study characteristics



- 12 centers; 7 European countries
- 650 cases; 1542 controls
- Enrollment between 1988 and 1994
- Common questionnaire (excepting translation differences)
 - Estimates of ETS exposure
 - Occupational exposures
 - Urban/rural living
 - Education* and diet*
- Inter-center and intra-country differences
 - Response rate
 - Selection of controls
 - Diagnostic criteria

*Data on education and diet not available for all centers.

Results



Reported source of ETS exposure:	OR (95% CI)	Inter-center range	Intra-country (G1/G2/G3) (I1/I2/I3)
Childhood	0.78* (0.64-0.96)	0.45 - 2.09	(0.60/0.82/0.55) (0.62/2.09/0.60)
Spousal	1.16 (ns) (0.93-1.44)	(<0.7 - >1.5)	--
Workplace	1.17 (ns) (0.94-1.51)	(8 centers >1.0)	--
Workplace or spousal	1.14 (ns) (0.88-1.47)	0.72 - 2.29	(0.88/1.22/2.01) (0.73/1.12/1.39)
Overall vehicles	1.14 (ns) (0.88-1.48)	0 - 2.85	--
Overall public places	1.03 (ns) (0.82-1.29)	0.24 - 2.32	--

* = Statistically significant. ns = not statistically significant

G1/G2/G3 and I1/I2/I3 = ORs for German centers 1, 2, and 3 and Italian centers 1, 2 and 3

Estimated effects of some sources of bias



Source of Potential Bias	Reported Spousal	Reported Workplace	Reported Spousal or Workplace
Unadjusted OR	1.16	1.17	1.14
Misclassification bias	-0.03	-0.03	-0.03
Histological confirmation	-0.03	-0.03	-0.03
Unconditional analysis	-0.01	-0.07	-0.03
Confounding	-0.01	-	-0.01
Estimated overall adjusted OR	1.08	1.04	1.04
Reduction in excess risk	50%	76%	71%

SUMMARY



- Large, well-conducted study
- No statistically significant overall increased risk reported for any sources of reported ETS exposure
- IARC collected data on many sources of bias, but did not report an OR adjusted for all these factors
- Data presented within the paper indicate that if all the adjustments had been made, the reported excess risk would have been reduced by at least 50%